



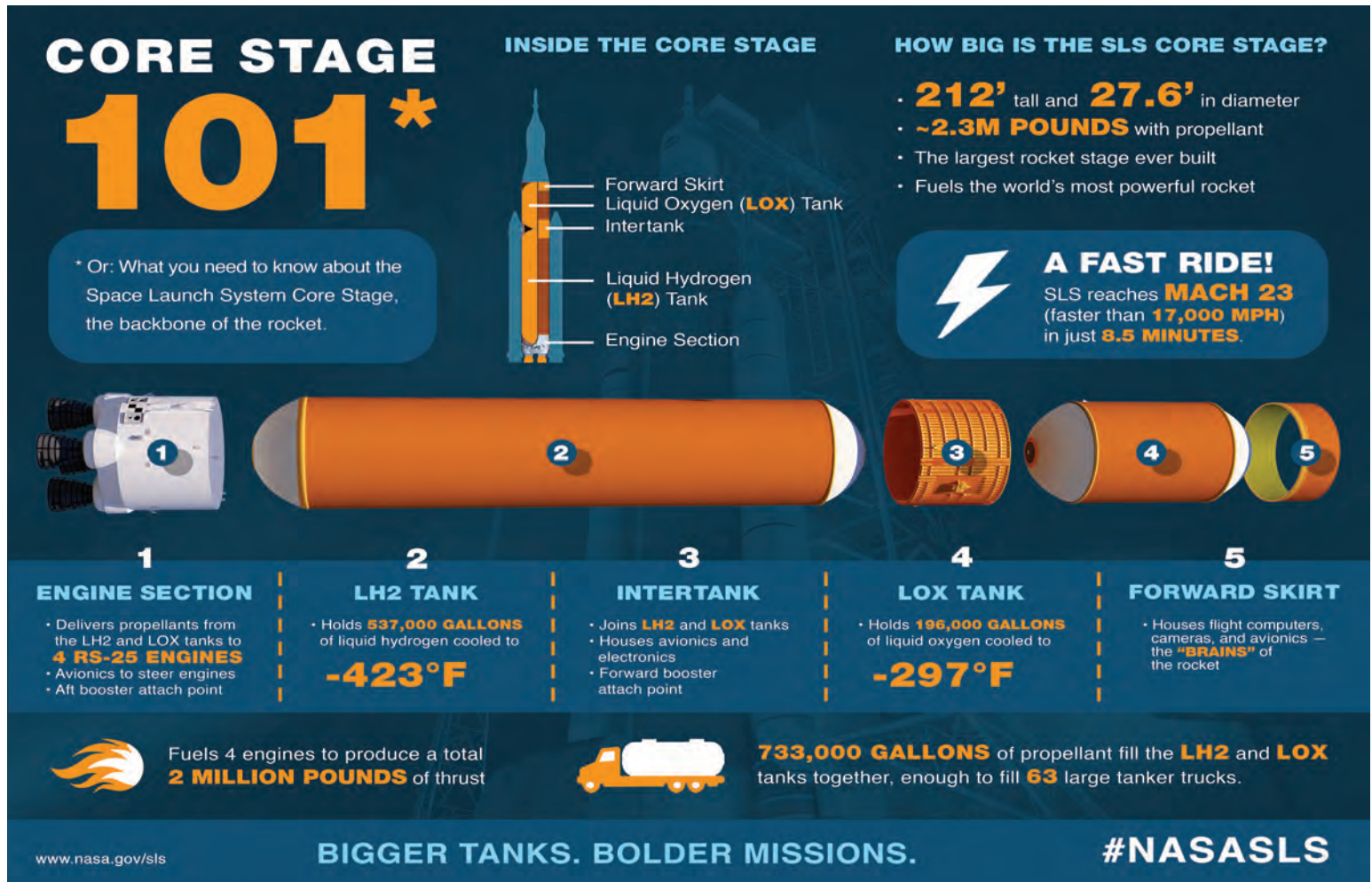
# SPACE LAUNCH SYSTEM

AUGUST 2017

## LIQUID OXYGEN TANK FOR FIRST FLIGHT WELDED



# NASA COMPLETES WELDING ON LIQUID OXYGEN TANK



With major welding complete on the liquid oxygen tank, NASA is another step closer to completing all main structures for the agency's first launch of SLS and Orion. Technicians with prime contractor Boeing recently built the tank in the Vertical Assembly Center robotic welder at NASA's Michoud Assembly Facility in New Orleans. Five major parts — the engine section, liquid hydrogen fuel tank, intertank, liquid oxygen tank and forward skirt — will be connected together to form the 212-foot-tall core stage, the backbone of the SLS rocket.

Read the full story: [bit.ly/2xaT6RD](https://bit.ly/2xaT6RD)

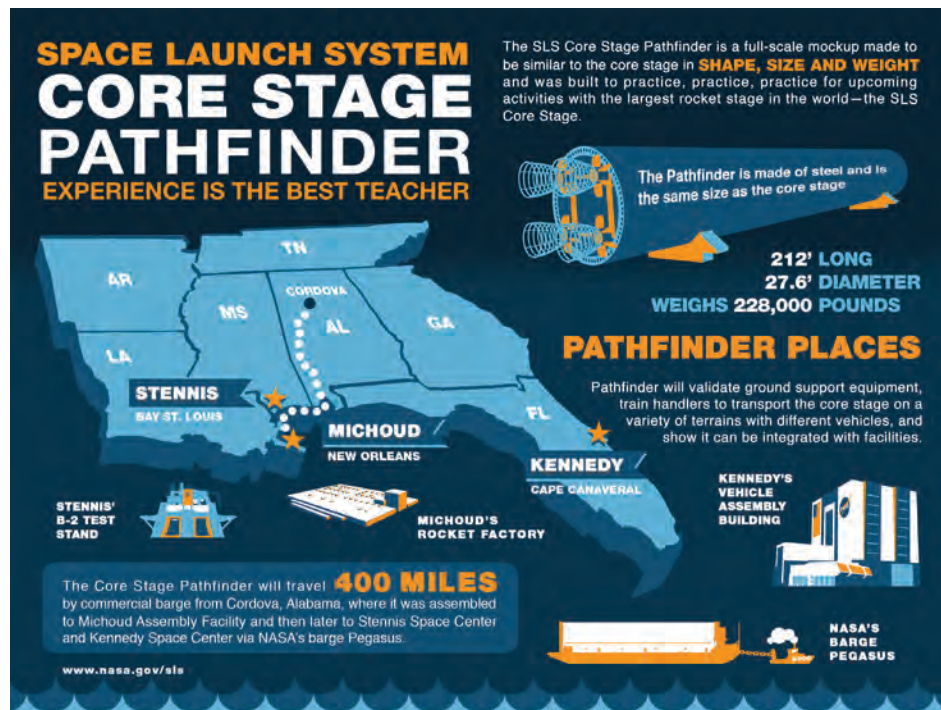




# CORE STAGE PATHFINDER PAVES THE WAY



To reduce the risk of first-time operations with one-of-a-kind spaceflight hardware, NASA and prime contractor Radiance Technologies of Huntsville, Alabama, built a core stage “pathfinder” that’s similar in size, shape and weight to the 212-foot-tall SLS core stage. In addition to Radiance Technologies, Alabama companies Dynetics, Inc. of Huntsville and G&G Steel of Russellville worked to build and assemble the core stage pathfinder.



The steel simulator will travel by commercial barge from G&G Steel's Cordova, Alabama, facility to NASA's rocket factory, the Michoud Assembly Facility near New Orleans. Later, it will make its way on NASA's barge Pegasus to the agency's Stennis Space Center near Bay St. Louis in Mississippi, and then to Kennedy Space Center in Florida. In all these NASA facilities, the core stage pathfinder will help technicians practice critical operations for handling and transporting flight hardware and enable them to fit check the hardware before the actual core stage arrives at their facilities.

Read the full story: [bit.ly/2vMsbel](https://bit.ly/2vMsbel)





# SLS LAUNCH VEHICLE STAGE ADAPTER READY FOR INSULATION

Prime contractor Teledyne Brown of Huntsville, Alabama, recently completed manufacturing of the SLS launch vehicle stage adapter (LVSA); now the hardware is prepped and ready for application of the spray-on foam insulation that will surround it during its ride to space. The LVSA connects two major sections of the upper part of SLS — the core stage and the [interim cryogenic propulsion stage](#) — for the first flight of the rocket and NASA's Orion spacecraft.

Read the full story: [bit.ly/2gHexPH](https://bit.ly/2gHexPH)





# ANOTHER NEW RS-25 ENGINE CONTROLLER SUCCESSFULLY TESTED

On August 30, NASA wrapped up a summer of successful hot-fire testing of [new flight controllers](#) for the RS-25 engines that will help power SLS. The space agency and RS-25 prime contractor Aerojet Rocketdyne recently completed a 500-second hot-fire test of a fifth RS-25 engine flight controller unit on the A-1 Test Stand at Stennis Space Center near Bay St. Louis, Mississippi. The controller serves as the “brain” of the engine, communicating with SLS flight computers to ensure engines are performing at needed levels.

Read the full story: [bit.ly/2xPbhcn](https://bit.ly/2xPbhcn)



# SLS ON THE ROAD



## EDUCATING THE NEXT GENERATION OF EXPLORERS AT THE 'ECLIPSE OF THE CENTURY'

Right in the path of totality, the SLS Program exhibited in Nashville, Tennessee, during the "eclipse of the century" at the Music City Solar Eclipse Festival August 19-20 at the Adventure Science Center. Retired astronaut Captain Robert "Hoot" Gibson signed autographs and posed for photos in the SLS exhibit and also gave a presentation on SLS and the future of NASA's human spaceflight program to about 250 attendees in the Center's auditorium.



## PLANNING FOR FUTURE SMALLSATS

The SLS Program presented at the annual Small Satellite (SmallSat) Conference in Logan, Utah, August 5-10. Thirteen small cubesat payloads will be released in deep space as part of the first integrated mission of SLS and Orion. At the conference, EM-1 Payload Mission Manager Dr. Kimberly Robinson shared progress toward the launch of these secondary payloads and discussed future opportunities for small science payloads on SLS.



## PRESSURE-SENSITIVE PAINT HELPS ENGINEERS EVALUATE BOOSTER SEPARATION

At NASA's Langley Research Center in Hampton, Virginia, a scaled SLS model is being tested using pressure-sensitive paint to evaluate the separation of the solid rocket boosters from the rocket's core stage. The solid rocket boosters on the side of the SLS act like extremely short, stubby wings and can sometimes have surprising impacts on the system aerodynamics, said Amber Favaregh, acting co-lead for Langley's SLS Aerodynamics Team. The painted model undergoes testing at Mach 4 (3,069 mph or 4,939 km/h) for the Block 1B cargo and crew vehicle.

Pressure-sensitive paint allows engineers to gain "a visual of the flow and pressure on the model during separation," said Courtney Winski, a researcher at Langley's Configuration Aerodynamics Branch. "It gives us more data on how it is going to separate, and possible effects on flow path."

Read the full story: [bit.ly/2tNI2Zk](https://bit.ly/2tNI2Zk)

## SPACEFLIGHT PARTNERS: *Dynetics, Inc.*

**NUMBER OF EMPLOYEES:** 1,500

**LOCATION:** Huntsville, AL



**WHAT THEY DO FOR SLS:** Dynetics serves as the prime contractor for the Universal Stage Adapter, which will connect Orion to the SLS Exploration Upper Stage in the Block 1B configuration of the vehicle. In addition, Dynetics is the technical lead for the core stage pathfinder, coordinating the activities of G&G Steel and Radiance Technologies. Dynetics also developed the low-cost full-scale SLS advanced booster cryogenic demonstration tank and is expanding its presence in the aerospace industry with the construction of the Dynetics Aerospace Structures Complex in Decatur, Alabama.

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## COMING UP:

Core stage pathfinder arrives at Michoud

SLS booster avionics meets milestone

Flight fuel tank continues welding at Michoud